Stormwater Action Team – Proprietary Devices Evaluation Protocol (PDEP)

Proposed Criteria for Evaluating Proprietary Stormwater Quality Treatment Devices

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CONTEXT

- ARC Technical Publication No. 10: Stormwater Management Devices – Design Guideline Manual (TP10) Version 2, 2003
- Provides 75% TSS removal as one method of achieving Best Practicable Option (BPO)
- Proprietary Device vendors have sought recognition as being able to achieve TP10 equivalent treatment – an “approval”

CONTEXT

- TP10 Chapter 15 provides broad guidance on evaluating Proprietary Devices
- CH15 has very broad guidance, with generalised provisions
- Result – variety of information (quantity and quality) has been submitted with “approval applications”

TP10 REVISION

- Revised TP10 to have bands of performance (low, average, optimum)
- Revised TP10 to consider other contaminants
- Proprietary Devices – will look at certifying performance, against manufacturer's claim
- "Certified Performance" devices will still require resource consent upon installation

Proprietary Device Evaluation Protocol (PDEP)

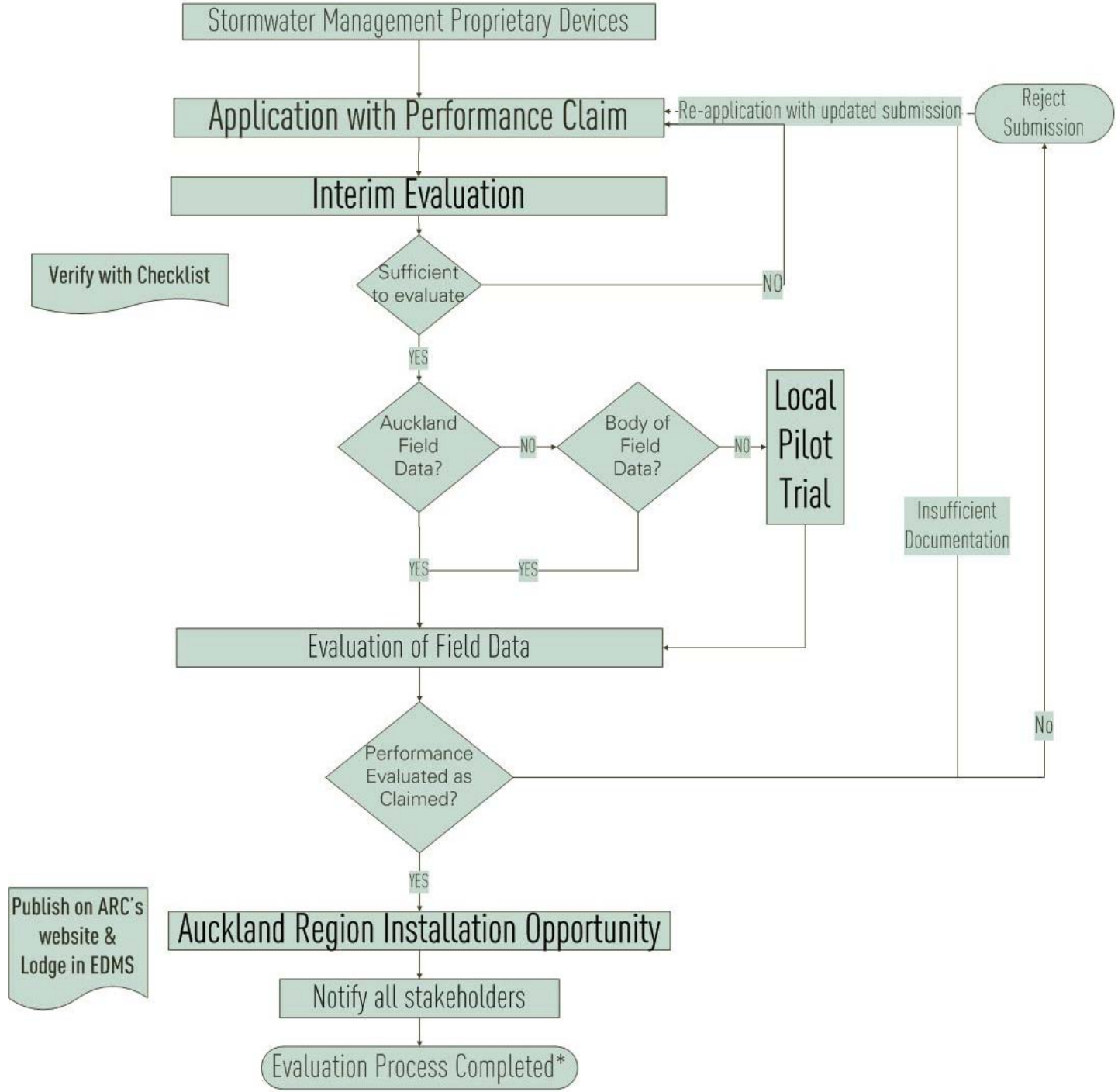
- Will operationalise Ch 15 of TP10
- Will follow Best Practice
- Will provide explicit guidance on information requirements
- Add transparency to process
- Consider other factors that contribute to device performance

BEST PRACTICE EXAMPLES

- Technology Acceptance Reciprocity Protocol (TARP)
- Technology Assessment Protocol – Ecology (TAPE)
- ETV Verification Protocol – Stormwater Source Area Treatment (ETV)

EVALUATION FRAMEWORK

- Application Phase
- Initial Evaluation Phase
- Local Pilot Trial Phase
- Auckland Region Performance Certification Phase


Stormwater Management Proprietary Devices
Application with Performance Claim
Re-application with updated submission
Reject Submission
Interim Evaluation
Verify with Checklist
Sufficient to evaluate
NO
YES
Auckland Field Data?
NO
Body of Field Data?
NO
Local Pilot Trial
YES
YES
Insufficient Documentation
Evaluation of Field Data
Performance Evaluated as Claimed?
No
YES
Publish on ARC's website & Lodge in EDMS
Auckland Region Installation Opportunity
Notify all stakeholders
Evaluation Process Completed*

PARAMETRIC EVALUATION MATRIX

- Carried out after the Local Pilot Trial phase
- Added consistency and transparency
- Enables a measurable method of evaluating the performance of a device
- Addresses other factors that contribute to long-term performance

PROPOSED REGULATORY EVALUATION CRITERIA & FACETS (PART1)

Evaluate the device performance in the regulatory context (ARC)

Assess the ability of the device to perform as claimed

- Removal Efficiency
- Performance Claim
- Treatment Mechanism
- Limitations of Device Suitability
- Pre-treament Provisions
- Sizing Methodology
- Installation
- Operation and Maintenance
- Reliability
- Robustness
- Other Factors

PROPOSED OPERATIONAL EVALUATION CRITERIA AND FACETS (PART 2)

Evaluate other operational factors for the purpose of comparing devices available

Document aspects that influence the long term performance or longevity of the device

- Constructability
- Capital Costs
- Operational Costs
- Operation and Maintenance

PROPOSED PARAMETRIC SCORING

Evaluation matrix developed for both Part 1 and Part 2

Regulatory process: Part 1 – Regulatory Criteria is scored, while Part 2 – Operational Criteria will be documented

Owners and operators may choose to score the proposed Part 2 – Operational Criteria

Scoring performed parametrically based on guidance

Guidance distributes score of facets across bands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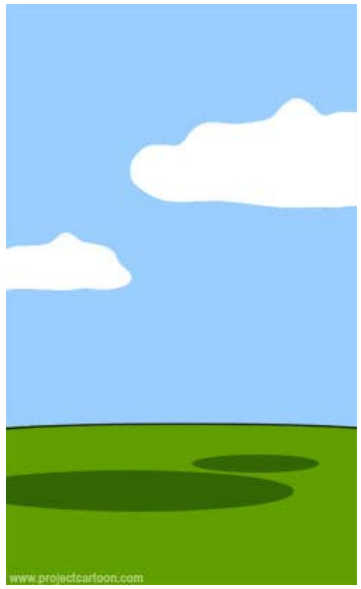
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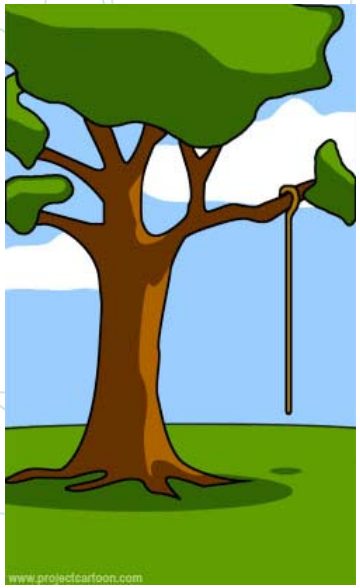
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PROPOSED PARAMETRIC SCORING – cont'd

- Quantitative score range is 0 – 5
- 1 indicates limitation
- 5 favours the facet
- Minimum acceptable score assigned for each facet
- Critical to ensure that the minimum requirements are met
- 0 score assigned for devices not meeting the minimum standard of a facet

BENEFITS OF PARAMETRIC SCORING

- How each criterion fare against the other can be deduced at a glance
- Presentation of information allows evaluation to be consistent and transparent
- Opportunity for stormwater manager or designer or owner or operator to rank or weigh the evaluated criteria based on values and priorities of the organisation
- Opportunity to select the appropriate stormwater management option for a particular site and/ or application based on quantitative scores

PLANNED ACTIVITIES

- Draft circulated for comments and feedback
- Peer reviewed by international experts in proprietary stormwater management devices
- Relevant comments incorporated
- Stand alone technical guideline published to operationalise Chapter 15 of TP10

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